MAY 11 1932

THE RHODE ISLAND MEDICAL JOURNAL

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VOLUME XV No. 5 | Whole No. 272 | PROVIDENCE, R. I., MAY, 1932 | PER YEAR $2.00 SINGLE COPY 25 CENTS

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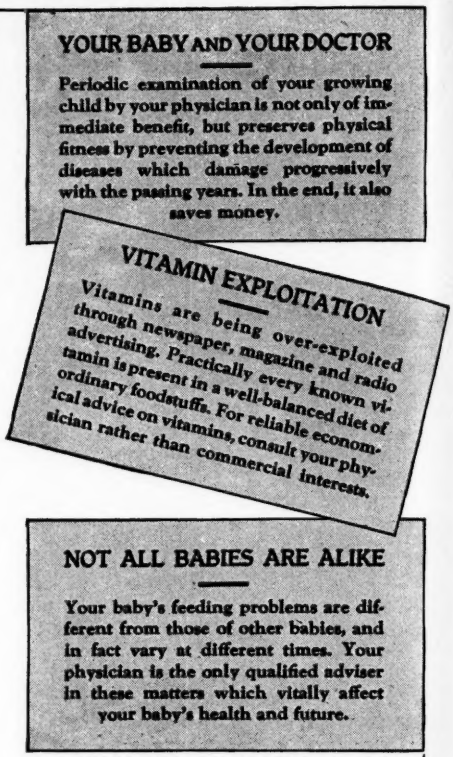
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The Official Organ of the Rhode Island Medical Society
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NUMBER 5
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ORIGINAL ARTICLES

THE PATHOLOGICAL GALL BLADDER; THE X-RAY ASPECT *

By PHILIP BATCHELDER, M.D.
188 WATERMAN STREET, PROVIDENCE, R. I.

In considering the role of the X-ray in gall bladder disease, it should be stated at the outset that the method is not complete in itself for making the diagnosis, but should be correlated with the clinical story and other laboratory findings, in the same manner that any laboratory procedure should be. Many times the X-ray examination furnishes the final confirmatory evidence of previous suspicions, but in and of itself, it often should not be taken as the final word. It is preferable that the gall bladder examination be a part of the examination of the G. I. tract.

Within a short time of the discovery of the X-ray, reports began to be made of the finding of opaque gall bladder calculi and with refinement in technique and increase in power of the machines, these became more common. In spite of this, the part played by the X-ray in the diagnosis of gall bladder diseases remained unsatisfactory until the time of the development of cholecystography in 1923 by Graham and Cole. Only a very small percentage of gallstones were opaque to the X-ray and consequently only a small proportion were shown by the earlier methods. (See Table I.)

With the development of cholecystography, a means was furnished by which the gall bladder could be rendered opaque to the X-ray and a contrast given between the gall bladder and its surroundings. The test is a test of gall bladder function and not of gall bladder disease. This has sometimes been forgotten in the stress of clinical work, but it should be constantly borne in mind because of the possibility of error if it is not considered. In considering the test as testing the function of the gall bladder, it should also be noted that it shows the present function; that is to say, the gall bladder may have been diseased at some previous time but has recovered somewhat so that later it may fill and empty apparently as normal as ever.

There are two methods of giving the dye which have firm adherents for each one. The early work was done with the intravenous method and at that time it was unquestionably the better method. The oral method was tried but with rather poor results. Theoretically, the intravenous method is more exact but it is a rather complicated procedure for office use. The originators of the method still use the intravenous dye and there are some others, but by far the larger number use the oral method. At the present time, the oral method carries with it but very few reactions, and these of a minor nature, and the process is much simpler to use, particularly with ambulatory patients. The reliability of the oral method has been definitely proven by a large series of cases from many clinics from all sections of the country, so that it would seem clearly shown that the choice of the method depends on the individual and that the reliability of the results is practically as good with one as with the other.

As for the interpretation of the films themselves, it is very important that they be of the highest technical quality and that particular attention be paid to the suspension of respiration, the positioning of the patient and that the film cover all possible locations of the gall bladder.

The normal gall bladder examination shows a pear-shaped shadow on the right side of the spine, usually between the last rib and the crest of the ileum. This shadow can be made to grow smaller or disappear, following the taking of fatty food. This normal response may show several normal variations, such as constrictions or kinks, which are apparently the result of congenital anomalies. Usually the portions of the gall bladder above and below the constriction, contract proportionately after food. Many times the gall bladder is displaced after food, apparently from pressure from the food in the stomach. Occasional deformities

* Read before the Providence Medical Association, October 5, 1931.

are seen which are apparently the result of adhesions but these are rather rare. The gall bladder may have many adhesions to it, due to previous disease, yet show a quite normal shadow.

In the carrying out of the test, it is customary in many places to observe the contraction or emptying of the shadow after the fatty meal. Graham and Cole do not use this method, believing that if the gall bladder fills it will empty, and that the mere visualization of the gall bladder indicates its power to concentrate the bile and the dye. Stewart of New York, one of the chief exponents of the oral method of giving the dye, agrees that filling and visualization indicates normal function, but that the observation of the contraction after food gives better evidence of the contractility of the gall bladder wall. Hawley, in a recent study of five hundred cases, found that in all of the cases, if the gall bladder filled it also emptied. Sosman believes that a few, or small, calculi are made more clearly visible by making films after food. Whitaker has studied fluoroscopically the contraction of the gall bladder after food. This is best done with thin patients and he believes the procedure adds considerably to the information to be gained from the test.

An interesting finding has been that all calculi which contain calcium show without the dye and that if the dye is given, the gall bladder does not fill or at most, casts a very faint shadow. Varying percentages of calcium containing stones were reported as shown by the accompanying table:

TABLE I

Calculi containing Calcium

17.5% of all stones found by X-ray contained calcium	Graham.
5.1% of all stones found by X-ray contained calcium,	R.I.H. Series
8.4% of all cholecystectomies showed calcium stones	Graham
3.9% of all cholecystectomies showed calcium stones	R.I.H. Series
1.6% of all examinations showed calcium stones	Hawley
2.0% of all examinations showed calcium stones	Beilin

In checking up the results of cholecystography, a very valid objection may be raised that the only accurate check is on the operated cases, and that cases which have been reported normal are not apt to be operated upon unless the clinical evidence is very striking. On the other hand, it is the only method we have, and all the other reported series were made on the same basis. Table II shows the X-ray findings in fifty-one cholecystectomies performed at the Rhode Island Hospital between January 1, 1930, and September 1, 1931. During this period one hundred and one cholecystectomies were performed at the hospital but the others either had the examination elsewhere before entering the hospital or did not have the test performed at all.

TABLE II

Fifty-One Cholecystectomies

Non-opaque stones at operation not found in cholecystograms	26
Non-opaque stones at operation found in cholecystograms	13
Opaque stones at operation found in cholecystograms	2
Non-calculus cholecystitis	10
	51

The X-ray findings in these fifty-one cases were borne out by the operative and pathological findings in all cases when the report was that of non-filling gall bladder or of a filling with calculi. In other words, the report of a pathological gall bladder (forty-seven cases) either from non-filling, or from the finding of calculi, was 100% correct in this series.

In the latter group of non-calculus cholecystitis, found at operation and proven by the pathological report, are four cases which were reported by the X-ray as being normal, but in spite of the report were operated upon. The films in these cases have been carefully reviewed and compared with the pathological slides, and there has apparently not been a technical error. The reason for this discrepancy is unexplained, except for the suggestion that the functional activity of the mucosa of the gall bladder does not always exactly parallel the pathological appearance. This should bring to mind again two points which have previously mentioned; first, that cholecystography is a test of function and not of pathology; second, that the examination is merely a part of the whole examination and should be taken in conjunction with the other findings, and that a normal X-ray report should not bar operation if the other findings indicate surgical treatment.

THE ELECTROCARDIOGRAPH AS A DIAGNOSTIC AID *

By DR. CECIL C. DUSTIN
199 THAYER STREET, PROVIDENCE, R. I.

The electrocardiograph is a comparatively new diagnostic instrument. It has been developed for clinical use within the past twenty-five years, and now is as valuable to the cardiologist as is the fluroscope to the gastroenterologist.

In its earlier forms the instrument was confined to use in the dark room. At present there are several reliable makes available, all of them operable

* Read before the Rhode Island Medical Society, December 3, 1931.

in daylight, and some of them portable. The instrument consists basically of two parts; an electrical system, sensitive to varying potentials, and so arranged that it activates a galvanometer; and an optical system, of lights, lenses and a camera, capable of recording on sensitized paper or film, the activity of the electrical system. The details of construction vary in the different instruments, but they all make use of the same physical and physiological phenomena.

The contraction of heart muscle, like the contraction of any muscle in the body, will give rise to an electrical potential which the string galvanometer will record, if the electrodes are properly placed. In using the electrocardiograph the electrodes are placed for convenience at both wrists, and at the left ankle; although satisfactory tracings can be made with the electrodes applied directly to the body. By the use of a selective switch the three conventional leads may be obtained in rapid succession. The first lead is from the arms, the second from the right arm and left leg, and the third from the left arm and left leg.

In the normal heart beat the exciting impulse arises in the sinus node, which is situated near the junction of the superior vena cava with the right auricle. From this point the impulse spreads over the auricles, causing a practically simultaneous contraction of these chambers. It is the passage of this impulse and the resulting contraction that gives rise to the first or P wave of the electrocardiographic tracing. After a slight pause during which the impulse passes to the auriculo-ventricular node and thence to the bundle of His, the ventricles contract simultaneously. The bundle of His sends branches to both ventricles, with many fine ramifications, and is capable of transmitting the impulse very rapidly. The ventricular muscle enters into contraction very rapidly because it is stimulated almost simultaneously at so many widely separated points by means of this complicated conduction system. During the spreading of the contraction throughout the ventricles the QRS group in the cardiogram is inscribed. At the end of QRS there is an electrical balance, due to the coincident equal activity in all parts of the ventricle. The T wave of the cardiogram begins directly after this period of electrical balance, and reaches its peak at about the same instant of the maximum intraventricular pressure. The T wave ends with the sharp drop in pressure which produces the closure of the aortic valves. From the foregoing it can readily be seen that the electrocardiograph affords a precise method of determining the relation of auricular and ventricular activity.

The commonest type of heart irregularity is sinus arrhythmia. This condition is probably physiological rather than pathological. In this condition there is no derangement of the normal sequence of the heart beat. The whole heart is involved and there is present a rhythmic change in rate, dependent upon the respiratory effort. As anything that tends to increase the pulse rate also tends to eliminate this irregularity, there should be little chance of confusing sinus arrhythmia with other conditions. The electrocardiograph shows an action, which is normal, in this condition.

Heart block is a term applied to conditions in which there is present a disturbance of the normal distribution of the exciting impulse. There are several degrees of block, and some of them can be detected only by the electrocardiograph. There may be present only a lengthening of the interval between auricular and ventricular systole, or the complete disassociation of the chambers of the heart. In partial block there may occur dropped beats at more or less regular intervals. The pulse or apex impulse shows a corresponding pause, and it may be impossible to differentiate this pause from the compensitory pause following a ventricular premature contraction. Because of the seriousness of partial heart block a differential diagnosis is exceedingly important and can only be made with certainty with the electrocardiograph. Any degree of blocking of the impulse indicates an impairment of the function of an exceedingly important bit of tissue. Its early discovery may avert disaster. In the presence of a pulse rate below 60, there is often the possibility of a partial block, and it is only by careful study of the case, or the use of the electrocardiograph that its presence or absence can be detected. In rates below 40 there is almost certainly a block present. Our evaluation of the disturbances of the conducting sytem of the heart, either nutritional or otherwise, is almost entirely dependent upon the electrocardiograph.

Of the gross irregularities of the heart rhythm that are common, and that can at times be very puzzling, are the premature contractions. These may have their origin in either chamber of the heart, and although they indicate an abnormally irritable conducting system, they may be present for years without causing embarrassment to their

host. They may crowd in, in such numbers as to be difficult of diagnosis. The irregularity may so closely simulate auricular fibrillation that clinically the differential diagnosis is impossible. Although their point of origin influences the physical signs, this, after all, is not as important as determining accurately the cause of the irregular action of the heart. The treatment of an irregularity due to premature contractions with digitalis or related drugs would be dangerous to say the least. The electric curves will identify the condition, and this is most useful as a guide in treatment.

Paroxysmal tachycardia, with its abrupt onset and its equally abrupt termination, is usually quite readily recognized. The symptoms in this condition mostly arise from venous stasis in other organs. Strangely enough, if the attack persists for a few days the disorder may be confused with coronary disease or even with acute surgical conditions of the abdomen. Naturally an accurate diagnosis is important, and here the heart tracing is valuable. The paroxysmal tachycardias are very easily confused with auricular flutter, a condition which is clinically intermediate between paroxysmal tachycardia and auricular fibrillation. Flutter is a rare condition, usually occurring in persons past the fourth decade, characterized by a remarkably steady rate of from 130 to 160 per minute. Some degree of heart block is practically always present, and it is doubtful if the condition can be definitely recognized without the aid of the electrocardiograph.

The typical clinical picture in auricular fibrillation is familiar to every internist and general practitioner. It is usually readily recognized. However, in those chronic ambulatory cases which we so commonly see in the out-patient departments, there may be only a moderate amount of dyspnoea and a mildly irregular pulse to make us suspect the presence of the disturbance so aptly termed delirium cordis. It is in these cases that fibrillation of the auricle is so easily confused with premature beats or dropped beats, particularly if the premature contractions arise in the auricle. In order to advise these people wisely and treat them safely the presence of fibrillation must be confirmed by the electrocardiograph.

In the remaining rhythmic disturbance, alternation of the pulse, the electrocardiograph may or may not be helpful. Certainly the blood pressure apparatus is more reliable in detecting the variations in the force of the heart beats. The sounds appear to be of normal spacing with regular alternation of loud and feeble sounds. Near the upper level of systolic pressure the feeble sounds disappear. Pulsus alternans must be distinguished from alternating premature contractions; and again the highest court of appeal is the electrocardiograph.

There is little help received from the electrocardiograph in diagnosing valvular lesions of the heart. There is no typical electric curve that is always associated with any of the several valve involvements. The tracings may show a right or left axis deviation, which is usually interpreted to mean hypertrophy of the right or left sides of the heart. This evidence is not always borne out clinically, or at the post-mortem examinations. Mitral stenosis is the valvular lesion most commonly showing changes in the electric curves, but there are many cases in which the curves may not be altered.

In nutritional disturbances of the myocardium, which occur in coronary disease, the heart tracings often show definite and quite persistent changes from the normal. It is possible to get a normal cardiogram, in the presence of a definite coronary occlusion, and the tracings must be considered with the same guarded judgment as any other laboratory finding. There is usually a certain train of symptoms noted when a branch of the coronary arteries becomes occluded. If it be sufficiently large, immediate death results. In the less widespread affections, more or less myocardial degeneration results, and this in turn influences the conducting mechanism and the resulting contraction. The electric curves may vary, depending upon the portion of the conducting bundle involved. Not infrequently the involvement of a minor branch of the coronary artery may give rise to a very few symptoms, and the impending heart collapse may be overlooked. The electrocardiograph may not only establish the presence of such a lesion, but it may later aid in estimating the extent of repair processes in the myocardium.

Digitalis and allied drugs influence the shape of the curves, and in many cases these variations are of considerable value in guiding the dosage of these drugs. It is very helpful to follow electrocardiographically the administration of heavy doses of digitalis, thus watching for the early signs of poisoning, as indicated by excessive inversion of the T wave, by the appearance of a prolonged conduction time, and of premature ventricular beats occurring bi-geminally. Such signs indicate that further administration of the drug must proceed cautiously.

From this brief discussion of the commoner types of heart disease it can readily be seen that the electrocardiograph has become a very important diagnostic instrument. Those cardiac patients in the middle decades of life are few, who do not deserve an electrocardiographic examination, for it is in this group that accurate diagnosis and prompt treatment may conserve for the sufferer years of usefulness. The proper handling of heart cases depends upon an accurate diagnosis, not only in the primary heart diseases, but also in the many conditions in which cardiac complications are so prevalent.

THE RHODE ISLAND MEDICAL JOURNAL

Owned and Published by the Rhode Island Medical Society
Issued Monthly under the direction of the Publication Committee, 106 Francis Street

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EDITORIALS

PROFESSOR R. N.

In the Bulletins which our universities publish each year, the letters B.A., B.S., Ph.B., M.A., Sc.D., and Ph.D., ornamenting the list of names of the faculties, signify stages of education or degrees of learning. For an assistant or instructor, a simple B.A. or B.S., indicating only four years of college training, is sufficient. For the professor, the more advanced degrees, M.A., Sc.D., or even Ph.D. are uniformly required. To this list of honorable degrees, one of our universities now adds the letters, R.N., which embellish the name of the Professor of Anesthesia.

It is now many years since those who held the responsibility and power in the teaching hospitals connected with our universities, discovered that they could save considerable money by displacing the medical graduates who were specialists in anesthesia in favor of nurses, who could perform the technical duties of the anesthetists with sufficient satisfaction and at greatly reduced expense. The graduate anesthetists were then refused admission to surgical societies and the papers which they prepared on subjects related to general anesthesia

were no longer accepted by surgical journals. It was at one time intended to do away with general anesthesia and to entirely substitute regional and spinal methods but outcries from patients prevented realization of this plan. In the teaching hospitals, anesthetics were administered by nurse technicians and an increasing amount of anesthesia for private work was forced upon them without any general increase in their scale of compensation. Money which the employment of graduate anesthetists would have required went to the treasury of the hospitals. The plan made no provision for instruction in anesthesia in the universities nor for practical experience in anesthesia for the internes of the teaching hospitals. Under these conditions, the number of skilled, graduate anesthetists constantly diminished. It was then predicted that this change would, in the course of years, result in an entire lack of medical graduates competent to teach the science of anesthesia.

At the present time, from necessity, the teaching of anesthesia in our universities is entrusted almost entirely to nurses who are excellent technicians but who are totally unfitted in educational background and in training to carry out the duties of university professors. According to the Minimum Standard for Hospital Standardization of the American College of Surgeons: "The minimum requirement is that the chief anesthetist be a medical graduate who shall devote his time to his specialty and thus acquire proficiency in it." Some of the state universities of the mid-west have well organized and efficient departments of anesthesia but, in general, the teaching hospitals connected with universities are unable to fulfil the minimum requirement of the College of Surgeons for the reason that competent graduate anesthetists are not available. The universities are unable to give instruction in anesthesia because they have neglected to train and to provide graduates who are competent to give such instruction.

CATALOGUE THE LIBRARY

The building of the Rhode Island Medical Society has served as a meeting place for the medical organizations so long that it has erroneously come to be regarded as the chief function. The real purpose of the building is to serve as a receptacle and file for books of interest to the medical profession. The library contains now an excellent collection of books both old and new and a very wide variety of periodicals. The cataloguing of these books however has been left unnoticed. Here the library fails seriously in its function, for one is unable to find what it contains and the confusion must of necessity increase. The cost of cataloguing may be considerable at present but it is probably as cheap now as it ever will be. The suggestion is therefore made that the Rhode Island Medical Society set aside each year a definite sum to be expended solely for the purpose of instituting a catalogue system in the library.

AN UNWARRANTED RESTRICTION

Legislation which hampers the doctor in his daily ministrations to the sick is a burden not only to the physician but to the public whom he serves. While it is not uncommon for laws, ordinances and rulings which are aimed at the correction of evils to have bi-effects which are far different from what is intended and which actually create new evils in themselves, it is only occasionally that there is actually put into operation a measure which causes a real hardship to a large group of people. Such untoward effects are usually foreseen and corrected beforehand.

The ruling, recently been promulgated by the Providence police authorities, which establishes a no-parking area in a large part of the East Side between eight and ten in the morning is an example of this sort of harmful regulation of the activity of citizens. Designed to prevent the clogging of the streets with the automobiles of people who spend the day "downtown," an evil which certainly has needed correction, it greatly embarrasses those practitioners of medicine who may have calls to make in the prescribed area. One should hardly be expected in these hard times to hire taxis or to employ an expensive chauffeur, and walking, though healthful and pleasant, is extremely slow and laborious and not as a rule to be recommended when one is called in emergency. Furthermore the hours in which the ruling applies are the very time of day when it is often most advisable to call on one's sickest patients.

It is to be remembered that the members of the Providence Medical Association were assured by a

city official interested in the measure that medical men were to be specifically exempted. Nevertheless we have been definitely informed that no provision for such exemption has been made. Certainly an indefinite or informal order to patrolmen and traffic officers to overlook the cars of physicians, when they recognize them, is hardly a sufficient guarantee to make a doctor feel justified in openly disobeying this regulation. Either a change in the order allowing parking for a limited period, or a specific exemption for doctors, if necessary by the use of identifying insignia to be displayed on the cars, seems in order.

It seems that certain exceptions to the rule have already been made in favor of those attending weddings or funerals—but these affairs, one must admit, are rather rare occurrences between the hours specified, and are more easily scheduled as to the time of their occurrences than are, for example, pulmonary hemorrhages, precipitate labors and heart attacks.

In voicing the present complaint against a distinctly harmful result of a single ruling the JOURNAL by no means implies lack of appreciative support of the work of the constituted authorities in charge of public safety, but wishes on the other hand to express its thorough approbation of this work as well as it confidence that the wrong here discussed will speedily be righted.

CONCERNING INTERPRETATIONS

It is not such a long stretch of years as to outspan the memory of many an active doctor of today, when the blue and white bottles of Fehling's solution, a stethoscope and perhaps a Bunsen burner, and a few tubes, met the requirements for most of the commonly known tests used in diagnosis.

But, behold the changes! The Roentgen ray bids fair to make the present day physician, at least, lazy about auscultation. The nervous dyspeptic relaxes in the dark, and shadows from his insides reveal "defects," "caps," spasms and what not, under the fluoroscope. He who has worshipped the fairest goddess unwisely may have all the story drawn, drop by drop, from his median basilic vein ten years after his devotions. Or, since the stream flows freely take more, and find out the status of his nitrogen metabolism, whether the Islands of Langerhans have ceased functioning and perhaps add a few drops to the already whimpering system of a guinea pig.

If the patient staggers under the heavy hand that follows too much good living, or suffers from "poor material in the pipes," he may be wired up in an ingenious device, and:

> "The Moving Finger writes: and having writ,
> Moves on; nor all your Piety nor Wit
> Shall lure it back to cancel half a Line,
> Nor all your Tears, wash out a Word of it."

Knowledge to read an electrocardiograph today resembles more the science of astronomy than the work of an astrologist. Only recently, what most women have long suspected has become fact. Her casual morning excretions, with the aid of a rabbit and a trained technician, yield up her innermost secret. Indeed, the secrets of one's most intimate physiological doings may have long since become stale news in the laboratory.

All of which brings up the question of the interpretation of tests and special examinations. There still remain too few, to be sure, of "the flower of our civilization, such as it is," the general practitioner. To him the technician must talk the language which he understands. After long consultation with his patient concerning finances, a belated trip is planned to the laboratory or to the consultant. The report may be almost as vague to the doctor as it is to the patient. They both want, and need, a clearly expressed answer. That the answer can be definitely "yes" or "no" may not be possible, but a few words of explanation would clarify the result to a very workable degree.

THE LIBRARY OF THE RHODE ISLAND MEDICAL SOCIETY *

By DR. HERBERT G. PARTRIDGE
190 ANGELL STREET, PROVIDENCE, R. I.

When the President asked me to speak to you on this topic, I at first demurred, because this Library is not the property of the Providence Medical Association, but of the Rhode Island Medical Society. On further consideration, however, it seemed that inasmuch as every member of this Association is, or ought to be, a member of the Rhode Island Medical Society, it might not be amiss to speak in a general way of these books,

*Read before the Providence Medical Association, March 7, 1932.

with the thought of interesting the members of this Association in the treasures of the Library.

We meet month after month in this building, and give all too little attention to the collection of books here gathered. There are many books on our shelves which are very rare and valuable, and my object tonight is to direct your attention to our resources with the hope that some of you may be stimulated to take a lively interest in the Library.

This library is the result of the care and thought and energy of several generations of book lovers, who let no opportunity pass to obtain books for it, so that today we have a collection which, is very comprehensive, from both the historical and bibliographical viewpoints, and in which may be found the writings of the most eminent men of our profession, from the earliest days. Indeed, from the books on the shelves of this library might be written a complete bibliographical history of medicine, for we possess not only the writings of the fathers but also of the leaders, down to the present day.

In order to give you a general idea of what our library really is, I present this brief and therefore rather inadequate sketch, taking up some of the more notable books, with some comments on the writers and the publishers, in order to make plain their value. It is obvious that I cannot give extracts from any of them in the time allotted to this paper, although it would be a most interesting task.

It has seemed best to discuss these volumes for the most part in a chronological order, because their interest and value depend in a large part upon their age.

The oldest book in the library is a copy of Pliny's Natural History, which was a very well known book. This copy is a folio, printed in Black Letter, in Italian, bound in boards, which are apparently not the original covers. This work bears the date 1501. When it is remembered that the art of printing from movable types was introduced only fifty years before this book was printed, and that the earliest printed medical work dates to 1468, the interest and value of this volume are apparent. In 1501 there were only about three hundred printing presses in the whole world. The book is in a fine state of preservation, save for some evidences of bookworms. It is printed on rough thick paper, and the ink used is as black as if newly laid on.

We have two books of especial interest from the bibliographical standpoint, as they were issued from the house of Aldus, one of the most famous of the early printing establishments. The products of this press are today rare, and are eagerly sought after, because of the excellence of the typography, and the general elegance, for the time, of the books.

This house was founded by Aldus Manutius, who was in his early years a scholar and teacher, and who at the age of forty learned the trade of printer, in order to help to spread the knowledge of the classics, which he so much loved. He settled in Venice in 1490, and issued his first books five years later. He made a specialty of printing Greek texts and translating others into Latin, and so painstaking and thorough was he that he gathered into his own household a large company of Greek scholars and adopted Greek as the language of the family.

The two Aldine books which we have are the Works of Galen, dated 1525, and the Works of Oribasius, dated 1554. This edition of Galen is mentioned by Garrison first in the list of principal editions of his works, and is also noteworthy because the Aldine press published only two other works in 1525. This book is probably as valuable as any in the library.

Oribasius was born in Sardis in Greece, in 325 A. D., and wrote several books, most of which were compilations of the writings of others, especially Galen. Our copy of his works is a small book, bound in vellum.

The oldest publication from Basle is a copy of Celsus, *De Arte Medica,* printed in 1552. Basle was early a printing and medical centre, and many books were sent out from that city.

Another sixteenth century book is a small quarto, rebound beautifully, *De Naturale Parte Medicinae,* by John Farnelius, printed at Venice in 1547. We have also from Basle a small book by John Baptist Theodosius, dated 1553.

From Paris, printed in 1564, there is *Definitiorum Medicarum,* by John Gorraeus. He was a French physician, born in Paris in 1505, and died in 1577. This is therefore the earliest work in the library, printed during the lifetime of the author.

The Principles of the Art of Medicine, according to Hippocrates and Galen, in Latin, by Henricus Stephanus, is a fine book, but bears no evidence of the place of publication. Its date is 1567.

The works of Avicenna, the famous Arabian physician, are here in the edition of 1555, published by the Giunta press in Venice. This publishing house was almost as prominent as the house of Aldus.

A very famous work is the *Opera Chirurgica* of Ambrose Paré, printed at Frankfort am Main, in 1594. This is a folio, bound in vellum. It is well preserved, but a few of the illustrations, of which there were many, have been abstracted.

These ten books are all that I have been able to find, dating to the sixteenth century, but they are all fine works, and we are very fortunate to possess so many, printed so long ago.

During the seventeenth century, the art of printing became well established, and a far greater number of books were printed, so that we have on our shelves many more dating to that time.

The earliest is the works of Areteus of Cappadocia, who ranks next to Hippocrates as one of the leaders of early medicine. This book is a large folio printed in Greek and Latin, in parallel columns. The date is 1603, and the book is in perfect condition.

The earliest work in English is *A Discourse of the Whole Art of Chyrurgerie,* by "Peter Lowe, Scottishman." This was published at Glasgow in 1634. It is an interesting book, printed in Black Letter, and contains the first reference in English to the ligation of arteries in amputation. Peter Lowe was a Scottish army surgeon, and was the founder of the Faculty of Physicians and Surgeons in Glasgow, in 1599.

Caspar Bauhin, 1550-1624, Professor of Anatomy in Basle, is represented by his *Institut Anatomica,* published at Frankfort, in 1616. This is the second book which we have, published contemporary with the writer.

One of the most beautiful books in the library, as well as one of the most famous, is the *De Fabrica Humani Corporis* of Vesalius, dated at Amsterdam, September 10, 1642. It is in Latin, bound in vellum, and contains 110 copper plates, with thirty-six pages of text, with annotations in Dutch. These plates are very finely done, but many of them are rather fanciful, and to our modern eye even amusing, viewed as serious anatomical illustrations. For instance, the first plate represents the perfect human body, as Adam and Eve, with the apple in the hand of Adam, and between them on the ground, a skull, from which is emerging a serpent.

The *Opuscula Anatomica* of John Riolanus was published at London in 1649. This writer was Royal Professor of Anatomy in London and wrote much on anatomy.

John Joseph Wepfer wrote a monograph on apoplexy which appeared in 1658. We have a copy of the first edition, printed at Schaffhausen by John Caspar Suter. It is a small vellum bound book.

The works of Hippocrates are in the library in one volume in large folio of 1300 pages, in very good condition. The text is printed in parallel columns in Greek and Latin. This work was published by Chouet in Geneva, in 1657.

John Browne, 1642-1700, surgeon, of London, and descendant of a long line of physicians and surgeons, is represented by his *Myographica Nova.* This has forty-one copper plates, and is a most beautiful book, and is one of the best in the collection. In this work the names of the muscles were printed upon them for the first time in English. It was issued in 1684, and we have the first edition.

Strangely enough, we have no books of note, dating to the first quarter of the eighteenth century, but from that time on several important books appeared, some of them reprints of the older writers, and some of them original works.

We find first the writings of Thomas Sydenham, dated 1726. He was born in 1624 and died in 1689. He was one of the most eminent physicians of his day, and was a learned philosopher. The copy of his works on our shelves is a small book, in boards, and in good condition.

The *Anatomy* of William Cowper appears in the library in the London edition of 1739. It is a large folio, containing many fine copper plates. Cowper was born in 1666 and died in 1709. This was his only work, and it is said that even here only the text and nine plates were his own, the other plates being copied from a previous illustrator of Amsterdam, Bidloo. We have the publication of this latter writer and illustrator, in a quarto, from Leyden in 1715. The plates are unusually fine.

Another good work in the library is the *Anatomy of Eustachius,* by Bernard Siegfried Albinus, dated at Leyden in 1744. Albinus was one of the first and one of the most prolific artists of his age. He was born in 1697 and died in 1770. He studied under Bidolo above mentioned, and others, and was professor of Medicine at Leyden. He edited

and published, besides the works of Eustachius, the works of Harvey, Fabricius and Vesalius.

The *Physiology* of Friedrich Haller, which we have in a fine copy of the first edition, was issued at Lausanne in 1757. Haller was the greatest physiologist of his time, and may be said to be the father of physiology, for he performed for the first time many experiments since become well known, made many discoveries, and wrote voluminously. We are extremely fortunate to own this great work, in the first edition.

Antonio Scarpa, who died in 1832, was another writer who illustrated his own books, and is considered unexcelled in the beauty of his drawings. He published, in 1794, his *Tabulae Neurologicae,* which for the first time exhibited the proper delineation of the nerves of the heart. This, his greatest work, we have, in the first edition.

The epoch making work of William Withering, 1741-1799, entitled *An Account of the Foxglove and Some of Its Medical Uses,* was published at Birmingham in 1785, and we are so very fortunate as to own the first edition. He it was who introduced into medicine the use of digitalis, and this book is a résumé of his experiences with it. It is one of the classics of medicine.

Of some special interest to us in Rhode Island is the *Inquiry Concerning the Virtues of Tar Water* by Right Reverend Doctor George Berkeley, Lord Bishop of Cloyne, published at London in 1747. As you know, Bishop Berkeley resided in Middletown, in this state, for some years.

A book of some sentimental interest is a copy of the Paris Pharmacopea, 5th edition, 1758, in which there is an inscription in ink, "Pharmacie des Armees du Roy." This volume bears evidence of having been much used and may well have been in some of the campaigns of that time.

A work entitled *Observations on the Superior Efficacy of the Red Peruvian Bark in the Cure of Agues and Other Fevers,* by William Saunders, M.D., F.A.S., Physician to Guy's Hospital, London, 1783, is of interest to us because it bears the signature of Amos Throop, the first President of the Rhode Island Medical Society, and is the only book from his library that I have found.

I have mentioned only a few of the many eighteenth century books upon our shelves, and only those that appear to me to be the most important, as showing the material in the library.

Of books published in the nineteenth century we possess copies of nearly all those which are well known or important. It is impossible to do more than mention a very few.

In 1858, Geoffrey St. Hiliare published his great work on Teratology, in which fetal abnormalities were classified more completely and described more thoroughly than had been done before. He also introduced the nomenclature which we use today, and all writers on the subject constantly refer to to his studies. We have the second volume, only, of the Brussels edition.

Skoda is 1839 brought out his treatise on Percussion and Auscultation. This was the most important work of its kind, up to that date, and its influence, especially in its terminology, has endured to the present day. We have the fifth edition, printed in Vienna, in 1854.

The famous French school of medical thought is well represented. We have the works of Larcey, Broca, Chopart, Velpeau, Lisfranc, Cazeaux and Louis.

Among the writings of Englishmen are those of Smellie, William Hunter, John Hunter, Cheselden, Astley Cooper and Pott. There are three books bearing Providence imprints of 1785, 1793 and 1794. It would be interesting if we could know just why these publishing houses were led to undertake the publishing of medical books.

I have spoken thus far chiefly concerning the older books, but of modern books there is a fine working library, which is being kept abreast of the times. In addition, and very important and valuable, there are files of a large number of journals, including those of all the special branches of medicine, so that the original articles in any branch of our art may here be found.

We are indeed fortunate to have access to so complete a collection of books and journals.

CLINICAL-PATHOLOGIC CONFERENCE

at the

Rhode Island Hospital

Case reported by Dr. William Jordan. The following mimeographed history was passed out:

R. D. Age 11. Admitted October 28, 1931. Discharged November 15, 1931.

C. C. Listlessness.

P. I. For the past three months, i. e., through the entire summer vacation, the patient has been

listless, appetite has been poor. There has been no fever. Ten weeks ago two teeth were extracted and bleeding persisted for a week. Six weeks ago L. M. D. began treatment for "anemia." Patient seemed to grow brighter and gained a little in weight. There has been morning nausea for the past two weeks, and vomiting before breakfast, the past week. Sometimes the vomitus is blood streaked. Bleeding from the rectum began a week ago and has grown more profuse. Bowels move daily. For the past week, there have been small, round, hard stools, accompanied by pain.

Physical Examination

A pasty faced girl of 11, who looks older lethargic, is lying in bed without complaints. She speaks slowly and her voice is husky.

Eyes and ears are not remarkable. There is a small ulcer on the right mucous membrane of the nasal septum. Teeth are of the Hutchinsonian type. The right tonsil shows some necrosis and bleeding. In the chest, both apices exhibit slightly increased breath sounds.

The heart is enlarged. A blowing, systolic murmur may be heard all over the precordium. There is a to and fro murmur, of a kind best heard at the pulmonary area. Abdomen is distended, tense, tympanitic. Liver not felt. One observer thought he felt the spleen.

Anus is indurated; sphincter is tense and tender to digital examination. Glandular enlargement is present in the cervical, axillary and inguinal regions. The skin is dry and inelastic. At the time of admission the W.B.C. was 8,400; 90% polys. Urine was not remarkable; showed a little albumen and specific gravity of 1.026. Vaginal smear was negative.

Vomitus gave a 4 plus Benzidine reaction for occult blood. Wasserman 4 plus with both antigens. Hinton negative.

Progress Notes

The admission T.P.R. of 100.5, 145, and 26 soon settled to normal except for the pulse, which persisted at 100-110 for the most part throughout.

10/30/31. Rectal bleeding persists; patient does not look well, though she says she feels quite well. She is given a transfusion of 150 c.c. of citrated blood.

10/31/31. Rectal bleeding is worse. Calcium glutinate gr. 1/2 t.i.d. begun. Fluids restricted. 0.15 gm. neosolvarsan administered. X-ray examination of chest shows some slight mottling in the left lung field.

11/3/31. Child looks better. Rectal bleeding has diminished. 0.3 gm. neosalvarson was injected into buttocks causing severe pain. Twice, later, two ounces of coffee ground vomitus came up.

A report on the eyes by Dr. Messenger is as follows: "Cornea clear, vitreous clear. Fundi all pale, discs flat, well outlined, retinal vessels normal in size and color; there is a lack of the juvenile light reflex and the background of the retinae is coarsely granular. The greatest intensity of this appearance is in the right eye below the disc. There are a few small, pigment masses scattered in both eyes and a mass of pigment to the temporal side of the left disc."

11/6/31. Condition continues better. 150 c.c. citrated blood given intravenously.

11/10/31. W.B.C. 7,200. R.B.C. 1,600,000, Hb. 35, Polys 89%. Urine not remarkable.

11/11/31. Dr. Littlefield examined the anus on surgical refer noting the thickened skin, redundant and fissured, with slight active bleeding. Because of the last, proctoscopy was not advised. He thought the skin condition was specific in origin. The patient appeared quite lethargic.

11/13/31. 150 c.c. of whole blood by direct method transfused.

11/14/31. Drowsiness persists. Not much improvement.

11/15/31. Patient expired rather suddenly today, a respiratory death.

DR. JORDAN: "This patient had been very lethargic. She did not respond at all to questions. There was no great profuse bleeding at any time but it was more persistently from the rectum. There was no blood in the urine. The glands throughout the neck, cervical, inguinal and axillary regions were slightly enlarged but not extremely so. The liver was not palpable and I never was able to demonstrate the spleen. The neosalvarsen seemed to give a little trouble each time it was used and so after the second dose we stopped the use of it. At no time were we able to get complete control of the hemorrhage. The condition here is one that may be differentiated between the different blood diseases. Of course the positive Wasserman indicates specific infection. Dr. Adelman first saw the child and I have asked him to speak about it."

DR. ADELMAN: "On admission this child was practically moribund, due to hemorrhage. She had lost a considerable amount of blood. Before I saw her the diagonsis had been based on leukemia. I though it a wise thing to give some arsenic. I think aside from syphilis blood infection can be ruled out. The sluffing on the tonsil was of a leukemic nature."

DR. JORDAN: "Dr. Adelman saw this child when first admitted and then Dr. Feinberg saw it for a couple of days before I saw it."

DR. FEINBERG: "There is very little further to add. My first impression I was convinced we were dealing with a blood disease and it looked from outside appearance a typical disease of leukemia. The very severe anemia (I could not myself demonstrate the spleen), the fact that the child had a hemorrhage from the mouth and the fact that there was an ulcer near the tonsil seemed to point pretty clearly to that sort of thing. I requested the interne to save me a blood smear. As far as the white count is concerned, I did consider a leucocytosis. The polys when the smear came back were 90%. There was a history of a positive Wasserman and the eye department said that it was very definitely a case of luetic choroiditis but it hardly seemed probable that the youngster could be so critically ill from lues. Neither of the transfusions seemed to help the youngster at all. As Dr. Jordan stated, the first two treatments of neosalvarsen did not seem to do the youngster any good. The second did not seem to affect the youngster at all. I was wondering whether the child had a probable spinal lues. The interne who saw the child die described it as a respiratory death. He said that the youngster had for some time before that long sighing breathing and I wondered whether the youngster had some spinal syphilis."

Q: "I would like to ask whether the long bones were X-rayed in this case?"

A: "No, the only X-raying was done of the chest. The child was so extremely sick that we did not want to bother her more than possible."

Demonstration of Postmortem Findings

DR. CLARKE: "The postmortem findings are rather interesting. We were not permitted to open the head or examine the spinal cord, so we don't know if there was anything there. We can only say that we were not allowed to look. When we examined the body we confirmed the clinical findings. There were Hutchinson's teeth, fissures about the anus and an ulcer on one side of the nasal septum. As far as the great cavities of the body were concerned there was nothing of any interest in any of them. Peritoneal, pericardial and pleural cavities were all normal. I have here the heart. It is hard to judge the size of a child's heart. Possibly this one is somewhat enlarged. I should say there was hypertrophy of the left ventricular wall. It weighed 150 grams. Possibly there is some hypertrophy of the heart. Aside from that it is entirely negative. Lungs showed nothing. Spleen was not large. It weighed only 50 grams. We found no source of hemorrhage in the gastro-intestinal tract except the fissures about the anus. We found no lesion in the stomach or colon or small intestine. When we come to examine the kidneys we find the interesting thing. Together they weigh 650 grams. Shining through the capsule are numerous little cysts. They are made up of hundreds of cysts. Grossly, practically no normal kidney tissue is to be made out between those cysts. Congenital polycystic kidneys. There is no proved explanation of such a kidney but the commonly accepted theory is the failure of the two parts of the tubules to unite. The embryologists tell us that the straight or collecting tubules are developed from below (from the ureter and pelvis) while the rest (the glomeruli and convoluted tubules) develop from the metanephros and later those two parts unite so that we have a continuous system. If these fail to unite they become cystic. The condition of the kidneys might explain the anemia. We get severe anemia in the terminal stages of other forms of chronic nephritis."

The histology was shown by means of the microprojector.

Q: "The immediate cause of death to your mind was the cystic kidneys or lues?"

A: "That is a hard question to answer. There was no blood chemistry but I should think probably the cause of death was renal failure."

Q: "Did the liver show anything?"

A: "Nothing at all."

Q: "Could the death be due to arsenic poisoning?"

A: "The liver was pale and showed cloudy swelling. There was no necrosis."

Q: "Was there any hypertension?"

A: "The blood pressure was normal on admission."

OBITUARY

DR. ANTONIO C. VENTRONE

On February 24, 1932, Dr. Antonio C. Ventrone died in his 41st year. He was born in Italy, July 11, 1891. He came to Providence with his parents when he was five years old. His early education was received in the public schools. While going to school he worked in his uncle's drug store, and was graduated from the Rhode Island College of Pharmacy in 1907.

He worked as a pharmacist for the next two years and in 1909 entered Tufts Medical School and received his medical degree in 1913, *cum laude*. After a short interneship at the Memorial Hospital in Pawtucket, he engaged in general practice.

In 1922 he gave up general practice and served as house officer on the eye, ear, nose and throat department at the Boston City Hospital for 16 months. From 1923 until his untimely death, he enjoyed a large practice in his specialty. He was exact and thorough in his operating.

Dr. Ventrone was for a time on the out-patient departments at the Rhode Island Hospital, and assistant aural surgeon at St. Joseph Hospital. He was on the ophthalmological service at the Charles V. Chapin Hospital until his death.

In 1927 he went abroad for three months, partly on a pleasure trip and partly for study, spending some time at Dr. Gellie's Clinic in London. In September of 1929 he was operated on for malignant disease of the rectum by Dr. D. F. Jones of Boston and for a time it appeared as though he might not survive the immediate effects of the operation but subsequently he became as busy as ever again in the practice of medicine and in his political activities. He must have known from the outset that he had an incurable condition, and he was never free from pain, but he never allowed it to appear that he knew his future was in any way limited. He retained his genial manner and always had a pleasant smile and warm greeting for his friends and patients even into the last few months of his illness, which was most distressing. His courage and serenity in facing the inevitable was most remarkable. He had altogether a very attractive personality, was popular with his friends, his patients, and particularly enjoyed any sort of controversy, and was able to retain his good humor whether he was in the midst of a political discussion or an argument in the medical society.

In 1919 he entered politics, being elected that year to the Common Council from the old ninth ward, serving in that capacity for two years. It was just about at this time that he gave up practice for his post-graduate study and was engaged in no further political activity until 1928 when he was elected as alderman, succeeding himself again in 1930. He was very active, popular and influential on the Board of Aldermen until a little over two months before his death. In January, 1930, he was chosen a member of the Board of Hospital Commissioners, a post he held until his death.

Dr. Ventrone was a member of the American Medical Association, Rhode Island Medical Society, Providence Medical Association, Rhode Island Otological and Ophthalmological Society and the Malpighi Medical Club. He was also a member of several fraternal organizations.

Dr. Ventrone married Flora Bradbury in 1910. Besides his wife and three children, his father, mother and six sisters survive him.

His popularity was shown by the huge attendance at his home after his death and by the filling of the church to capacity by friends from every walk of life, at his funeral. He was buried at the North Burial Ground.

ANTHONY CORVESE,
FRANK T. FULTON,
VITO L. RAIA.

SOCIETIES

PROVIDENCE MEDICAL ASSOCIATION

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Lucius C. Kingman, Monday evening, April 4, 1932, at 8:50 o'clock. The records of the last meeting were read and approved.

The standing committee having approved their applications the following were elected to membership: Louis E. Burns, Joseph L. Kubanek, Lawrence A. Martineau, Laurence A. Mori. Dr. Anthony Corvese read an obituary on Dr. Antonio C. Ventrone. Dr. John W. Keefe read an obituary on Dr. James Hugh Bartley. It was voted to spread these on the records, send a copy to the family and one to the RHODE ISLAND MEDICAL JOURNAL.

Dr. Charles Hawkes spoke of the new traffic regulations on the East Side and its interference with doctors making calls. This was discussed by Drs. Frederick N. Brown, F. T. Fulton and Creighton W. Skelton. It was voted that a committee of three be appointed to investigate this matter and report at the next meeting.

The first paper of the evening was by Dr. Isaac Gerber on the "X-ray Study of the Uterus and Adnexa with Lipiodol Injection." It is nearly twenty years since these organs were studied by opaque subjects but the development of lipiodol, an iodized cotton seed oil, really made it valuable. Infection is the great contra-indication to this method as is hemorrhage and fever or pregnancy. A very large and handsome series of X-ray films were shown, demonstrating the findings in varied types of cases. The pressure is controlled by manometer and injections made under the fluoroscope. The paper was discussed by Drs. Ira H. Noyes and McCann.

The second paper was by Dr. Frank T. Fulton on "Coarctation of the Aorta," with report of two cases. This is a narrowing of the arch of the aorta between the subclavian artery and the ductus arteriosus. This has been considered to be very infrequent but he quoted some figures and incidents which indicated that cases are unrecognized. A series of slides showed the anatomy with the compensatory circulation through the intercostals and the notching of the ribs caused by the enlarged pulsating vessels which is pathonomanic. The pulsating of these vessels is the most outstanding sign; second is the high blood pressure in arms, lower in the legs. He reported two cases. The paper was discussed by Drs. Gerber and Dr. M. N. Fulton.

The meeting adjourned at 11:15 P. M. Attendance 107. Collation was served.

Respectfully submitted,

PETER PINEO CHASE,
Secretary.

RHODE ISLAND OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY

The bi-monthly meeting of the Rhode Island Ophthalmological and Otological Society was held at the Rhode Island Medical Library on Thursday evening, April 14, 1932.

There was an exhibit by the G. M. Smith Optical Company from 7 to 8 o'clock.

"Hyperplastic Maxillary Sinusitis," Dr. L. B. Porter.

"The Ioskiascopy Test," Dr. Joseph I. Pascal, Boston.

"Case of Brain Abscess of Otitic Origin," Dr. N. A. Bolotow. Discussion opened by Dr. John E. Donley.

"Remarks on the Aural Diagnostic Clinic in the Public Schools," Dr. Frank J. McCabe.

Clinical Cases

Retinitis Pigmentosa, Dr. G. W. Van Benschoten.

Hemorrhagic Glaucoma, Dr. Harry C. Messinger.

N. A. BOLOTOW,
Secretary.

DIVISION OF UNIVERSITY HEALTH—BROWN UNIVERSITY MEDICAL COLLOQUIUM

The first of a series of informal medical conferences, sponsored by the Division of University Health of Brown University, was held at the Arnold Biological Laboratory on March 28, 1932. Dr. John S. Hodgson, Brown '11, and now neurosurgeon at the Massachusetts General Hospital, was introduced by Dr. Charles A. McDonald and spoke about some interesting neurosurgical problems. One case discussed in some detail was that of a patient with persistent sciatic pain of such severity that an arthrodesis of the sacroiliac joint was performed; persistence of the pain following this procedure led to further study which revealed a tumour of the cauda equina, the surgical treatment of which completely relieved the patient. Compression of the cord from an overgrowth of an intervertebral disc was shown in another case. In these and in other cases, the speaker stressed the need for careful, painstaking and time-consuming diagnostic study, including lumbar puncture, in all patients whose complaints suggested the possibility of their needing surgery of the nervous system. Dr. Hodgson's presentation was followed by free discussion in which Drs. Kingman, Baldridge, Sanborn, Hughes, Messinger, McEvoy, McDonald, Burgess and Pickles were active.

On April 13, 1932, a second conference was held. Dr. Charles S. Kubik, neuropathologist at the Massachusetts General Hospital, spoke on "Brain Tumours and Brain Abscesses," illustrating his re-

marks by some excellent pathological specimens. He showed tumours of the frontal lobe, temporal lobe and cerebellum, and one interesting specimen showing actual compression of the medulla by a cerebellar lesion. A fairly diffuse left temporal lobe abscess and a well encapsulated abscess of eighteen months' duration were also shown. Dr. Kubik's demonstration was discussed by many of those present, including Drs. Donley, Kingman, Messinger, Gerber, McDonald, Batchelder, Porter and Gilbert, and Professor Gorham. Following this, Dr. L. B. Porter reported an unusual case of atrophy of the optic nerve in a Guernsey bull about six months old. The cause of this condition is unknown, but a few similar cases have been reported, chiefly by Dr. DeSchweinitz. This report brought about a very lively and interesting discussion.

HOSPITALS

Providence Lying-In Hospital

The Providence Lying-In Hospital staff meeting was held March 10, 1932. Reports and interesting cases for the past month were presented by Dr. John G. Walsh. A summary of 429 posterior positions for 1930 was presented by Dr. Milton Goldberger.

Members present at the meeting were: Drs. Bertram H. Buxton, Thomas W. Grzebien, Harold C. Miner, George W. Waterman, Frank I. Matteo, Harold Libby, J. Merrill Gibson, Craig S. Houston, J. Lincoln Turner, John F. Murphy, Maurice Adelman, and William P. Buffum.

Dr. David R. Brodsky completed his service as house surgeon and has entered into practice in Providence. Dr. Jarvis D. Case is now resident surgeon.

Dr. Louis F. Middlebrook, former house physician at the Hartford Hospital, Hartford, Conn., began his service of six months April 1, 1932.

Dr. Wilbur F. Leighton completed his residence of one month as surgical clerk and has returned to Tufts Medical School.

Edward S. Brackett, M.D.,
Secretary of Staff.

NOTES

Attention is called to an advertisement upon another page of this Journal of the office equipment of the late Dr. A. C. Ventrone, that is now offered for sale. To any in need of special instruments and apparatus, this would appear as a real opportunity.

Dr. Tom A. Williams, Washington neurologist, has moved to The Esplanade, Miami Beach, Fla.

The Rhode Island Medical Journal will print the paper on General Anaesthesia read by Dr. Malcolm Carr of New York at our last annual meeting in a subsequent issue. Dr. Albert Miller's discussion of the paper also will be printed and it is requested that those wishing a copy of this issue of the Journal make a request to the Secretary of the Dental Society.

BOOK REVIEWS

Psychology and Psychiatry in Pediatrics: The Problem. Report of the Subcommittee on Psychology and Psychiatry. Bronson Crothers, M.D., Chairman, White House Conference on Child Health and Protection. The Century Co., New York, Publishers.

Psychology and Psychiatry in Pediatrics: The Problem is a report of the Subcommittee on Psychology and Psychiatry (Bronson Crothers, M.D., Chairman) of the White House Conference on Child Health and Protection. It is published by the Century Company, New York, and consists of 146 pages.

The first 41 pages are very interesting and set forth very clearly the problem and a suggested solution of it. The atitude of the psychiatrist who tries to understand individuals in distress is recommended to the general practitioner of medicine in dealing with personality disorders in children. A few of the various factors in the attitude of the psychiatrist are a belief that certain assets and liabilities in the child can be found and controlled, a respectful interest in the personality of the child while searching for a motive, a tolerance of behavior which is usually viewed with disfavor and managed by disciplinary measures, an optimistic view of the future, and an approach to the mother and the child separately so as to obtain and keep

the confidence of each. In his dealings with the family the physician is advised to gain information on the following points:

"Are the parents aware of the changes in emotional reaction and in intellectual capacity that occur with advancing years? Are they reasonably familiar with the best way of managing such common difficulties as enuresis and masturbation? Are they setting sensible and attainable goals for their children? Do they on the whole realize the implications of "growing up" and the difficulties that must be faced if "maturity" is to be more than a chronological period of physical growth? Does the available evidence indicate that the parents honestly want the child to grow up and become independent, or do they cling to authority and try to control the child to satisfy their own desires? Is the intellectual progress of the child satisfactory?"

The members of the subcommittee state rather cleverly, "We cannot help having faith in the eventual ability of practiced and almost inspired borrowers of techniques and attitudes, as general practitioners have proved themselves to be, to select valid ideas . . . . The position of the general practitioner" (in dealing with minor personality disorders in children) "seems to us so strong and the claims of others so confused that we are willing to throw what intellectual and emotional reinforcement we can toward the doctor of medicine."

Pages 44 to 60 contain extracts from the discussion at the conference and add essentially nothing new. Pages 61 to 146 consist of an appendix which gives the methods by which the information in the first 43 pages was obtained from correspondence or discussion with psychologists, psychiatrists, neurologists, pediatricians, child guidance clinics, psychiatric social workers, and experimental groups primarily educational. About 45 pages of this appendix give the reprinted report of the Director of the Institute for Child Guidance in New York to the Administrative Board, for the year ending June 30, 1928.

The conclusions of the subcommittee, which should be read in their entirety by anyone interested in mental hygiene, are briefly given on pages 42 and 43. I quote a few paragraphs from them.

"The members of this subcommittee are prepared to defend the statement that adequate medical care of the child cannot be given without intelligent attention to any intellectual and emotional difficulties which may be present.

"There is such a thing as psychiatric intelligence which can be achieved by most physicians. The psychiatrically intelligent doctor is in the first place, familiar with the people doing valid work in his community; in the second palce, he is aware of the fact that the child has a personality as well as a body.

"When signs of difficulty arise the psychiatrically intelligent doctor is not bewildered by bizarre behavior or depressed by evidence of sin, but is curious as to motives. He recognizes that the motives can be discovered only by discussion with the child and by study of the human environment.

"For an effective study of personality, to use a rather formal phrase for what is often an informal procedure, the psychiatrist needs two assets. First, he must have an adequate attitude. Patience, curiosity, tolerance and almost invincible optimism are essential. To this attitude technical resources of a more or less elaborate, but by no means standardized, sort are added.

"The general practitioner must decide whether he regards the maintenance of the attitude as practicable. If he feels that his time table allows patient and often prolonged conversations he can begin to acquire technical resources. We believe that the technical resources of the doctor should be derived from those of psychiatrists just as the technical resources needed for urological study should be those of the urologists."

INTRACRANIAL TUMOURS—Notes Upon a Series of Two Thousand Verified Cases with Surgical-Mortality Percentages Pertaining Thereto. By Harvey Cushing, Professor of Surgery, Harvard Medical School; Surgeon-in-Chief, Peter Bent Brigham Hospital, Boston. Illustrated. 150 pp. Springfield and Baltimore: Charles C. Thomas, Publisher.

That the size of a book cannot be taken as an accurate indication of the value of its content must be self-evident; indeed, we have more than once suspected that the author who has his subject well in hand can afford to write briefly and succinctly, while he who is somewhat less well informed must go to greater length to express himself; the true value of the book, then, not infrequently comes to

vary inversely rather than directly with its size. The volume under consideration is an excellent example of this sort of thing, for in a scant hundred and fifty pages Dr. Harvey Cushing compresses the essential features of thirty years' work with intracranial growths; work which can be described, without any exaggeration, as epoch making.

The book, an amplification of a report made on September 1, 1931, before the International Neurological Congress in Berne, Switzerland, represents the experience of the author and his successive associates and assistants in handling about four thousand patients suspected of having tumours of the brain. Of these, a thousand, roughly, came to be classified as "tumour-suspects"; that is, no tumour could be demonstrated by any method, although about a fourth of them had exploratory operation. Almost another thousand were found to have tumours which have not been histologically verified for one reason or another; about half of these patients were operated upon. The remaining 2,023 cases are those of verified tumours, and these are briefly but carefully considered in turn.

These verified tumours were found, in this series, in the following percentages:

I.	Gliomas	42.6%
II.	Pituitary adenomas	17.8%
III.	Meningiomas	13.4%
IV.	Acoustic tumours	8.7%
V.	Congenital tumours	5.6%
VI.	Metastatic and invasive tumours	4.2%
VII.	Granulomatous tumours	2.2%
VIII.	Blood-vessel tumours	2.0%
IX.	Sarcomas (primary)	0.7%
X.	Papillomas (choroid)	0.6%
XI.	Miscellaneous	2.2%

Almost half of the tumours, it will be seen, fall into the *glioma* group, and it is interesting to note that these tumours are no longer considered uniformly hopeless. Indeed, considerable progress has been made toward determining, at the time of operation, the probable future history of the growth. This has been made possible, largely, by the supravital method of staining developed by Dr. Eisenhardt, together with the previous work of Bailey and Cushing in this field. One interesting observation is that 14 per cent of verified gliomas have sufficient calcification to be shown by careful roentgenograms, and that calcification does not necessarily indicate a relatively benign process.

The largest group of classified tumours in the glioma group is made up of the *astrocytomas*, which are relatively benign lesions with a very favorable prognosis. The *cerebellar astrocytomas* have a present day case mortality of 3.4% and an operative mortality of 2.9%. The *cerebral astrocytomas* have, at present, a case mortality of 4.9% and an operative mortality of 3.8%, figures which will prove very surprising to those who are inclined to regard all brain tumours as hopeless. The next largest group of the gliomas comprises the *multiform glioblastomas*. These are highly malignant tumours, as shown by an expectation of recurrence in from six to nine months even after as complete an excision as possible. Dr. Cushing believes that these tumours should be thoroughly radiated after operation, and feels strongly that a simple decompressive procedure is not justifiable. With present methods of treatment, the case mortality must eventually reach 100%; operative mortality in his hands is now 11.6%.

Another important subdivision of the gliomas is composed of the *medulloblastomas*. Those occurring in the cerebellum are highly malignant tumours, prone to inoculate the spinal fluid and thus to spread by implantation. Inasmuch as these tumours are quite susceptible to radiation, the practice in many clinics is to depend chiefly on this method of treatment. Cushing believes, however, that radical extirpation followed by heavy radiation offers the best hope of relief. The longest survival period in his series was five years, with four operations performed in the interim. The case mortality in these tumours is 33.3% and the operative mortality 26.3%. The tumours of this type occurring in the cerebrum are, surprisingly enough, quite benign lesions, with a case mortality of 18.8% and an operative mortality of 11.5%.

These three groups of tumours represent about 80% of the gliomas; the remaining 20%, while containing some very interesting tumours, can hardly be considered in detail in a review of this scope. We must be content to note the statistics for the gliomas as a whole, irrespective of cellular type or anatomical location. For the entire series of 862 such tumours, the case mortality is 25.9% while the operative mortality is 17.2%. If only the work of the last three years be considered, the case mortality is 15.7% and the operative mortality is 11.0%.

For many years the pituitary gland and its disorders have attracted Dr. Cushing's attention and continued study. It is interesting to note that he has now definitely abandoned the trans-sphenoidal approach and now uses a unilateral trans-frontal approach,

as giving a much more satisfactory exposure and much better results as far as saving vision is concerned. Radiation is of value only in the *chromophile adenomas;* in the *chromophobe adenomas* operative attack is the method of choice. The present case mortality for these tumours is 5.2%, while the operative mortality is 3.9%, and Dr. Cushing states that "we may confidently expect that these figures will soon approximate 1 or 2 per cent."

We have seen that the *gliomas* are not all so hopeless as has commonly been supposed. A quotation concerning the *meningiomas* will correct an equally false optimism concerning these tumours. "Though the meningiomas are supposedly the most favorable of all intracranial tumours for surgical attack, all things considered they offer more difficult technical problems for successful removal than do tumours of any other kind. This is due to the huge size they may attain, to the accompanying great vascularity of the adjacent tissues, and to their tendency to involve one or another of the major venous sinuses, more particularly the sagittal. The operations in consequence may be among the most formidable and immediately hazardous the surgeon is called upon to undertake. They are practically the only intracranial tumours for which it is desirable routinely to prepare for the possible need of a blood transfusion. And they remain today practically the only tumours in which one may still occasionally feel obliged to resort to the old-time two-stage operation. In addition to all this, no tumours require such detailed after-care either to avoid postoperative complications from secondary oedema, or to offset the tendency of cerebrospinal fluid fistulae to form. And what is still more important, these supposedly benign lesions are disconcertingly prone to recur, even with great rapidity." In spite of these difficulties, the case mortality is now 11.6% and the operative mortality 7.7%.

In the *acoustic tumours* Cushing believes that, while radical extirpation may be theoretically desirable, the accompanying high operative mortality makes the intracapsular excavation more practical and desirable, even though this may involve secondary operation for recurrence. Recent improvements in technique include the use of local anaesthesia, the employment of suction to supplement "spooning out" the lesion, electrosurgical devices for hemostasis, and the principle of cerebellar "uncapping"; i. e., the removal of the overlying shell of cerebellum.

Since the introduction of this last-named principle, the case mortality is 4.0% and the operative mortality 3.4%. Compare this with the figures for the decade from 1906 to 1915, when the case mortality was 28.6% and the operative mortality 18.7%.

Congenital tumours, metastatic growths, blood vessel tumours and a miscellaneous group comprise the other tumours in the series. The statistics for the entire series are of interest: In a series of 2,023 verified tumours with 2,735 operations, the case mortality has been 20.4% and the operative mortality has been 13.9%; in the past three years, 412 of these tumours with 562 operations have given a case mortality of 13.3% while the operative mortality has been 9.8%. It is this steady and progressive improvement in results which is the most striking feature of this report. The improvement has been attributed to the factors mentioned in the discussion of the acoustic tumours; most of all it must be attributed to perfection of diagnostic methods, operative skill and technique, and mature judgment acquired as the result of painstaking and highly intelligent application to a single problem.

The book is now and will long remain a classic in this field; it should be read and studied carefully by everyone interested in the problem of intracranial tumours.

MISCELLANEOUS

TREATMENT OF ADDISON'S DISEASE WITH CORTICAL HORMONE OF SUPRARENAL GLAND

Leonard G. Rowntree, Carl H. Greene, Ralph G. Ball, Rochester, Minn.; Wilbur W. Swingle and Joseph J. Pfiffner, Princeton, N. J. (*Journal A. M. A.*, Nov. 14, 1931), state that the clinical changes detected in observation of patients with Addison's disease who respond satisfactorily to treatment with the cortical hormone of the suprarenal are: (1) disappearance of anorexia, nausea and vomiting, and reappearance of appetite and development of the sense of hunger; (2) relief from fatigue and increase in strength and endurance; (3) disappearance of pain, and improvement in sleep; (4) decrease in pigmentation; (5) gain in weight; (6) return of normal gastro-intestinal activity; (7) change in the mental attitude charac-

terized by hope and euphoria; (8) moderate increase in blood pressure when the patient is in crisis or shock but very little change when the patient is in good condition; (9) increased resistance to infection or to the effects of surgical procedure, and (10) partial or complete rehabilitation of the patient and return to work. The most constant and striking effect is the disappearance of anorexia, nausea and vomiting, and also of the distressing pain in the loins that is present in so many of these patients. Increase in strength and endurance appears early, is marked, and is out of all proportion to the objective observations. The decrease in pigmentation becomes apparent within three or four days. A new problem is in the offing. With other methods of treatment the patients have been content to remain invalids, but the physical and mental improvement following the administration of the cortical hormone has led, in many instances, to the requests to return to work. Because of the inadequate supply of the hormone and also because of lack of knowledge as to the permanence of the effect, these requests have been denied thus far. In one instance the authors observed a patient under treatment with the cortical hormone pass through an infection which they have every reason to believe would have been immediately fatal in the absence of treatment. A tooth was removed without difficulty from one of their patients. This will bring to the fore the question of surgical procedure in Addison's disease for the removal of diseased glands. Surgical removal of a diseased suprarenal gland has been performed but once in the history of medicine. Idiosyncrasies to drugs constitute a serious clinical problem in Addison's disease. In the old days, if a patient was given a purgative he might go into collapse and die. The administration of almost any drug was attended with uncertainty as to its action. Once the patient is under the influence of the cortical hormone, the authors are of the opinion that the response to drugs will be much more normal than has been true in times past. The gain in weight of thirteen of the patients treated by them is indicated in a table. The majority of the patients gained weight, and some did so in a very striking manner. Three gained 10 pounds (4.5 Kg.) or more in the course of a month. Associated with the gain in weight there was a corresponding shift in the nitrogen balance with nitrogen retention.

SOME RECENT ADVANCES IN THE CHEMISTRY OF NUTRITION

H. C. Sherman, New York (*Journal A. M. A.*, Nov. 14, 1931), first considers vitamin G, recently differentiated from vitamin B. It seems to be true of vitamin G, as also of vitamins A and C, that the optimal amount is much higher than the minimal ("actual") requirement; in other words, that the body is able to make good use of a much more liberal intake than can be proved to be absolutely necessary. In the recent experiments of Ellis in the author's laboratory it has been found that, with food consumption practically the same per unit of body weight at a given age, growth and development continued to show a favorable response to increased liberality of vitamin G intake well above what suffices to prevent any actual sign of deficiency. Vitamin G also appears to contribute to the betterment of longevity induced by Sherman and Campbell through improvement of an already adequate diet. Thus, although the existence of vitamin G has been but recently recognized, there is already evidence that it is a nutritional factor of very far-reaching significance. The vitamin G which is thus designated at present as a nutritional factor may include more than one chemically individual substance. Several workers have found reason to think that the substance essential to growth and that which protects from dermatitis are different, or that more than one growth essential may here be involved, or that both these possibilities may be true. It now appears that the present vitamin G is probably a multiple rather than a simple factor; but, if this proves true, it will detract nothing from the importance of this factor to nutrition and health. Probably each of the vitamins A, C and D bears an important relation to the metabolism of calcium and phosphorus in the development of bones and teeth. Especially as regards the relationship between vitamin D and calcium there is now a wealth of evidence, much of which is very recent. Vitamin D undoubtedly plays a significant part in promoting the orderly development of the bones and teeth; but the evidence is conflicting as to how far it is a calcium conserving and how far only a calcium and phosphorus mobilizing factor. In the enthusiasm of the past few years, there has probably been a tendency to expect too much of vitamin D. Quite recently, however, two of the most

active and thoroughgoing groups of workers in this field, the Wisconsin group on the one hand and Shohl and his co-workers on the other, have pointed out with emphasis and cogency that neither irradiation nor the ingestion of vitamin D is a panacea for the problems of the calcium requirement and that, while the vitamin influences the intermediary metabolism of calcium, the supplying of the body's quantitative needs must depend on the calcium content of the intake. Both the published and the unpublished observations of the author's laboratory are also in accord with this view. While fully recognizing that the experimental evidence is in some respects conflicting, and that there is still some divergence of opinion among investigators, one should conclude that after much study of vitamin D the importance of liberal calcium intake is more fully established now than it has appeared to be at any previous time. Probably a larger proportion of the ordinary dietaries, both of adults and of children, can be improved by enrichment in calcium than in any other one chemical element. Optimal calcium retention in the growing child requires the joint action of a liberal provision of the antirachitic factor (whether by mouth or through the action of light on the skin) and a liberal intake of calcium in the food. For different individual children the calcium intake that will just support an optimal storage may range from 0.75 to 1 Gm. daily, the latter figure being a reasonably safe allowance to cover individual variations. When the calcium intake is less liberal, the body may still be able to store calcium, but usually not at an optimal rate. Optimal development of the growing body involves the retention of relatively more of calcium than of other body-building material, for there must be an increase in the percentage of calcium in the body at the same time that it is growing rapidly in size and weight. Under these conditions, the optimal rate of calcium retention is the maximal rate that the healthy growing body can attain, and to fall short of this is for the body to remain calcium-poor as compared with what the calcium content should be, for the best development, at the given age. In the improvement in health and longevity through better dietary one should not look for quick results. One of the most impressive features in recent discoveries regarding the relations of food to health and vitality is that the benefit of better feeding usually becomes fully apparent only when it is continued throughout a large part of the life-cycle, and often the benefit is greater to the second generation than to the first. While this may seem slow from the standpoint of therapeutics, it would also seem to indicate that the effects of food on vitality may be fundamental and far-reaching. Through simply a wiser emphasis in the daily choice and use of ordinary staple foods there may result improvements in the vitality of the individual or the family, all well within the bounds of normal nutrition but of very real significance for the maintenance of health or for recovery from disease.

HUMAN SIDE OF THE HOSPITAL

Joseph Brennemann, Chicago (*Journal A.M.A.*, Nov. 14, 1931), states that after an extended experience with a dozen widely differing hospitals, as intern, attending physician, visitor and patient, his attitude toward a given hospital centers in the emotions, in the heart, rather than in the mind, and he believes that reaction is freely shared by others. It is not the idealness of equipment and of organization but the subtler spirit of enthusiastic and self-effacing cooperation, of steadfast, sympathetic loyalty and devotion to a common cause that is bigger than any individual, that makes hospitals. It is the atmosphere, the morale of a hospital, that makes or wrecks its reputation and its usefulness. The children may be well cared for; the medical staff may be made up of able clinicians and investigators; the superintendent may be as wise as Solomon and as "just" as Aristides, and may see that the whole machinery of administration is well oiled and the physical equipment faultless; the board of trustees and the women's board may be actively interested and may do all that could be desired in other ways; the nurses may be intelligent, faithful and well trained; the interns and residents may be well schooled and prepared for their duties, may, indeed, get up at seven and be at breakfast on time; and yet the vital spark will be lacking if there is not back of it all an all-prevading spirit of cooperation and of kindliness or, as Emerson has so beautifully expressed it, "an element of love that permeates it like a fine ether."